

Permit No.: CO-0029793

County: Dolores

AUTHORIZATION TO DISCHARGE UNDER THE COLORADO DISCHARGE PERMIT SYSTEM

In compliance with the provisions of the Colorado Water Quality Control Act, (25-8-101 et seq., CRS, 1973 as amended) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.; the "Act") the

RICO DEVELOPMENT CORPORATION

is authorized to discharge from the St. Louis Tunnel mine and mill site located in sections 24 and 25, T40N, R11W; on Highway 145, approximately one mile north of Rico, CO to the Dolores River in accordance with effluent limitations, monitoring requirements and other conditions set forth in Part I and II hereof. All discharges authorized herein shall be consistent with the terms and conditions of this permit.

The applicant may demand an adjudicatory hearing within thirty (30) days of the issuance of the final permit determination, per the Regulations for the State Discharge Permit System, 6.8.0 (1). Should the applicant choose to contest any of the effluent limitations, monitoring requirements or other conditions contained herein, the applicant must comply with Section 24-4-104 CRS 1973 and the Regulations for the State Discharge Permit System. Failure to contest any such effluent limitation, monitoring requirement, or other condition, constitutes consent to the condition by the Applicant.

This permit and the authorization to discharge shall expire at midnight, January 31, 1999.

Issued and Signed this 30th day of December, 1993

COLORADO DEPARTMENT OF HEALTH

Robert J. Shallen

J. David Holm, Director
Water Quality Control Division

CERTIFIED LETTER NO. P 846 812469

DATE SIGNED 12/30/93

EFFECTIVE DATE OF

PERMIT 2/1/94

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PART I

A. TERMS AND CONDITIONS

1. Effluent Limitations

a) Outfall 001

Beginning no later than the effective date of this permit and lasting through January 31, 1999, there shall be no discharge from outfall 001, the discharge from the Blaine Tunnel to Silver Creek.

b) Outfall 002

Beginning no later than the effective date of this permit and lasting through January 31, 1999, the permittee is authorized to discharge from outfall 002, the discharge from pond 5, prior to entering the Dolores River.

In accordance with the Water Quality Control Commission Regulations for Effluent Limitations, Section 10.1.3, and State Discharge Permit System Regulations, Section 6.9.2, 5 C.C.R. 1002-2, the permitted discharge shall not contain effluent parameter concentrations which exceed the following limitations specified below or exceed the specified flow limitation.

<u>Effluent Parameter</u>	<u>Discharge Limitations</u>		
	<u>30-Day Avg</u>	<u>7-Day Avg</u>	<u>Daily Max</u>
Flow, MGD	2.6	N/A	Report
Total Suspended Solids, mg/l	20	N/A	30
pH, s.u. (minimum-maximum)	N/A	N/A	6.5-9.0
Oil and Grease, mg/l	N/A	N/A	10
Total Recoverable Cadmium, mg/l through January 31, 1995			
Jan-Apr	0.0024	N/A	0.0048
May-Jul	0.0055	N/A	0.011
Aug-Dec	0.0035	N/A	0.007
beginning February 1, 1995	0.0004	N/A	Report
Total Recoverable Copper, mg/l through January 31, 1995	0.03	N/A	0.06
beginning February 1, 1995	0.024	N/A	Report
Total Recoverable Lead, mg/l	0.0099	N/A	Report
Total Recoverable Silver, mg/l through January 31, 1995			
Jan-Apr	0.0002	N/A	0.0004
May-Jul	0.0006	N/A	0.0012
Aug-Dec	0.0004	N/A	0.0008
beginning February 1, 1995	0.0001	N/A	Report
Total Recoverable Zinc, mg/l through January 31, 1995	0.44	N/A	0.88
beginning February 1, 1995	0.237	N/A	Report
Whole Effluent Toxicity, Chronic Lethality	N/A	N/A	See Part I.A.2.

There shall be no discharge of floating solids.

See Part I.C. for Definitions.

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A. TERMS AND CONDITIONS

2. Whole Effluent Toxicity - Chronic Lethality Limitation

Beginning no later than the effective date of this permit and lasting through January 31, 1999, there shall be no statistically significant difference in lethality (at the 95% confidence level) between the control and any effluent concentration less than or equal to 25% effluent. Such limitation shall apply as a daily maximum.

3. Compliance Schedule - Cadmium, Copper, Silver and Zinc Limitations

The permittee shall achieve compliance with the effluent limitations of Part I.A 1., effective February 1, 1995, in accordance with a schedule of compliance approved by the Water Quality Control Division.

The permittee shall submit to the Division by June 1, 1994, an implementation plan to achieve compliance with the final limitations for cadmium, copper, silver and zinc. Where appropriate, the plan shall include operational changes, modification of any existing treatment, pretreatment or construction of a new treatment system. A schedule of dates to accomplish various tasks related to the plan should also be included.

Upon approval of the implementation plan by the Division, all terms and conditions of said implementation plan, including but not limited to the compliance schedule, shall automatically become conditions of this permit.

No later than 14 calendar days following each date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

A schedule for the elimination of the discharge, through connection to another treatment system or by other means, may be substituted for this schedule of upgrading.

4. Salinity Parameters

In order to obtain an indication of the quantity of Salinity being discharged from the site, the permittee shall monitor the wastewater effluent at the following frequencies:

<u>Outfall</u>	<u>Frequency</u>	<u>Sample Type</u>
002	Quarterly	Grab

Self-monitoring samples taken in compliance with the monitoring requires specified above shall be taken at those locations listed in Part I.B.1.

Where, based on a minimum of 5 samples, the permittee demonstrates to the satisfaction of the Water Quality Control Division that the level of total dissolved solids (TDS) in the effluent can be calculated based upon the level of electrical conductivity, the permittee may measure and report TDS in terms of electrical conductivity.

See Part I.C. for Definitions.

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B. MONITORING REQUIREMENTS

1. Frequency and Sample Type

In order to obtain an indication of the probable compliance or noncompliance with the effluent limitations specified in Part I.A.1, the permittee shall monitor all effluent parameters at the following frequencies. Such monitoring will begin immediately and last for the life of the permit unless otherwise noted. The results of such monitoring shall be reported on the Discharge Monitoring Report (See Part I.B.2.)

(a) Outfall 002

<u>Effluent Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow, MGD	Daily	Instantaneous or Continuous
Total Suspended Solids, mg/l	Weekly	Grab
Oil and Grease, mg/l	Weekly	Visual
pH, s.u.	Daily	Grab
TDS, mg/l	Quarterly	Grab
Total Recoverable Cadmium, mg/l*	Weekly	Grab
Total Recoverable Copper, mg/l*	Weekly	Grab
Total Recoverable Lead, mg/l*	Weekly	Grab
Total Recoverable Silver, mg/l*	Weekly	Grab
Total Recoverable Zinc, mg/l*	Weekly	Grab
Whole Effluent Toxicity, Chronic	Quarterly	3 Composites/Test

Self-monitoring sampling by the permittee for compliance with the monitoring requirements specified above shall be performed at the following location: outfall 002, the discharge from pond 5, prior to entering the Dolores River.

If the permittee, using the approved analytical methods, monitors any parameter more frequently than required by this permit, then the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form or other forms as required by the Division. Such increased frequency shall also be indicated.

* This parameter is subject to "Noncompliance Notification" requirements of Part II.A.3.b(iv) of this permit.

- (b) Oil and Grease Monitoring: For every outfall with oil and grease monitoring, in the event an oil sheen or floating oil is observed, a grab sample shall be collected, analyzed, and reported on the appropriate DMR. In addition, corrective action shall be taken immediately to mitigate the discharge of oil and grease. A description of the corrective action taken should be included with the DMR.

See Part I.C. for Definitions.

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B. MONITORING REQUIREMENTS

2. Reporting of Data

Reporting of the data gathered in compliance with Part I.B.1 shall be on a monthly basis. Monitoring results shall be summarized for each month and reported on Division approved discharge monitoring report (DMR) forms (EPA form 3320-1). The forms shall be mailed to the agencies listed below so they are received no later than the 28th day of the following month. If no discharge occurs during the reporting period, "No Discharge" shall be reported.

The DMR forms consist of four pages - the top "original" copy, and three attached no-carbon-required copies. After the DMR form has been filled out and signed, the four copies must be separated and distributed as follows:

The first original signed copy of each discharge monitoring report (DMR) shall be submitted to the Division at the following address:

Colorado Department of Health
Water Quality Control Division
Permits and Enforcement Section
WQCD-PE-B2
4300 Cherry Creek Drive South
Denver, Colorado 80222-1530

The first duplicate signed copy of each discharge monitoring report (DMR) shall be submitted to the following agency:

U.S. Environmental Protection Agency
Water Management Division
NPDES Branch 8WM-C
999 18th Street, Suite 500
Denver, CO 80202-2466

The third and fourth copies are for the permittee records. The Discharge Monitoring Report forms shall be filled out accurately and completely in accordance with requirements of this permit and the instructions on the forms. They shall be signed by an authorized person as identified in Part I.D.

3. Chronic WET Testing-Outfall 002

(a) Testing and Reporting Requirements

Test results shall be reported along with the Discharge Monitoring Report (DMR) submitted at the end of the reporting period for which the sample was taken. (i.e., WET testing results for the first calendar quarter ending March 31 shall be reported with the DMR due April 28.) The results shall be submitted on the Chronic Toxicity Test report form, available from the Division. Copies of these reports are to be submitted to both the Division and EPA along with the DMR.

The permittee shall conduct each chronic WET test in general accordance with methods described Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA/600/4-89/001 or the most current edition, except as modified by the most current Division guidance document entitled Guidelines for Conducting Whole Effluent Toxicity Tests. The permittee shall conduct such tests using *Ceriodaphnia dubia* and fathead minnows.

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B. MONITORING REQUIREMENTS

3. Chronic WET Testing-Outfall 002 (continued)

(b) Failure of Test and Division Notification

A chronic WET test is failed whenever there is a statistically significant difference in lethality between the control and any effluent concentration less than or equal to the instream waste concentration ("IWC"). The IWC for this permit has been determined to be 25%. The permittee must provide written notification of the failure of a WET test to the Division, along with a statement as to whether a Preliminary Toxicity Investigation ("PTI")/Toxicity Identification Evaluation ("TIE") or accelerated testing is being performed (see following section). Notification must be received by the Division within 21 calendar days of the demonstration of chronic WET in the routine required test. "Demonstration" for the purposes of Parts I.B.4(b),(c),(d) and (f) means no later than the last day of the laboratory test.

(c) Automatic Compliance Schedule Upon Failure of Test

If a routine chronic WET test is failed, the following automatic compliance schedule shall apply. As part of this the permittee shall either:

- (i) proceed to conduct the PTI/TIE investigation as described in Part I.B.4.(d), or
- (ii) conduct accelerated testing using the single species found to be more sensitive.

If accelerated testing is being performed, the permittee shall provide written notification of the results within 14 calendar days of completion of the "Pattern of Toxicity"/"No Toxicity" demonstration. Testing will be at least once every two weeks for up to five tests until; 1) two consecutive tests fail or three of five tests fail, in which case a pattern of toxicity has been demonstrated or 2) two consecutive tests pass or three of five tests pass, in which case no pattern of toxicity has been found. If no pattern of toxicity is found the toxicity episode is considered to be ended and routine testing is to resume. If a pattern of toxicity is found, a PTI/TIE investigation is to be performed. If a pattern of toxicity is not demonstrated but a significant level of erratic toxicity is found, the Division may require an increased frequency of routine monitoring or some other modified approach.

(d) PTI/TIE

The results of the PTI/TIE investigation are to be received by the Division within 120 days of the demonstration of chronic WET in the routine test, as defined above, or if accelerated testing is performed, the date the pattern of toxicity is demonstrated. A status report is to be provided to the Division at the 30, 60 and 90 day points of the PTI/TIE investigation. The Division may extend the time frame for investigation where reasonable justification exists. A request for an extension must be made in writing and received prior to the 120 day deadline. Such request must include a justification and supporting data for such an extension.

The permittee may use the time for investigation to conduct a PTI or move directly into the TIE. A PTI consists of a brief search for possible sources of WET, which might reveal causes of such toxicity and appropriate corrective actions more simply and cost effectively than a formal TIE. If the PTI allows resolution of the WET incident, the TIE need not necessarily be conducted. If, however, WET is not identified or resolved during the PTI, the TIE must be conducted within the allowed 120 day time frame.

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B. MONITORING REQUIREMENTS

3. Chronic WET Testing-Outfall 002 (continued)

Any permittee that is required to conduct a PTI/TIE investigation shall do so in conformance with procedures identified in the following documents, or as subsequently updated: 1) Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, EPA/600/6-91/005F May 92, 2) Methods for Aquatic Toxicity Identification Evaluations, Phase I Toxicity Characterization Procedures, EPA/600/6-91/003 Feb. 91 and 3) Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures, EPA/600/3-88/035 Feb. 1989.

A fourth document in this series is Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures, EPA/600/3-88/036 Feb. 1989. As indicated by the title, this procedure is intended to confirm that the suspected toxicant is truly the toxicant. This investigation is optional.

Within 90 days of the determination of the toxicant or no later than 210 days after demonstration of toxicity, whichever is sooner, a control program is to be developed and received by the Division. The program shall set down a method and procedure for elimination of the toxicity to acceptable levels.

(e) Request For Relief

The permittee may request relief from further investigation and testing where the toxicant has not been determined and the Division has determined that suitable treatment does not appear possible. In requesting such relief, the permittee shall submit material sufficient to establish the following:

- (i) It has complied with terms and conditions of the permit compliance schedule for the PTI/TIE investigation and other appropriate conditions as may have been required by the Division;
- (ii) During the period of the toxicity incident it has been in compliance with all other permit conditions, including, in the case of a POTW, pre-treatment requirements;
- (iii) During the period of the toxicity incident it has properly maintained and operated all facilities and systems of treatment and control; and
- (iv) Despite the circumstances described in paragraphs (a) and (c) above, the source and/or cause of toxicity could not be located or resolved.

If deemed appropriate by the Division, the permit or the compliance schedule may be modified to revise the ongoing monitoring and toxicity investigation requirements to avoid an unproductive expenditure of the permittee's resources, provided that the underlying obligation to eliminate any continuing exceedance of the toxicity limit shall remain.

(f) Spontaneous Disappearance

If toxicity spontaneously disappears at any time after a test failure. The permittee shall notify the Division in writing within 14 days of a demonstration of disappearance of the toxicity. The Division may require the permittee to develop and submit additional information which may include, but is not limited to, the results of additional testing. If no pattern of toxicity is identified or recurring toxicity is not identified, the toxicity incident response is considered closed and normal WET testing shall resume.

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B. MONITORING REQUIREMENTS

3. Chronic WET Testing-Outfall 002 (continued)

(g) Toxicity Reopener

This permit may be reopened and modified (following proper administrative procedures) to include new compliance dates, additional or modified numerical permit limitations, a new or different compliance schedule, a change in the whole effluent toxicity testing protocol, or any other conditions related to the control of toxicants if one or more of the following events occur:

- (i) Toxicity has been demonstrated in the effluent and the permit does not contain a toxicity limitation.
- (ii) The PTI/TIE results indicate that the toxicant (s) represent pollutant(s) that may be controlled with specific numerical limits, and the permit issuing authority agrees that the numerical controls are the most appropriate course of action.
- (iii) The PTI/TIE reveals other unique conditions or characteristics which, in the opinion of the permit issuing authority, justify the incorporation of unanticipated special conditions in the permit.
- (iv) The Division may reopen this permit and impose chronic toxicity limits where chronic toxicity is identified.

C. DEFINITIONS OF TERMS

- 1. "Composite" sample is a minimum of four (4) grab samples collected at equally spaced two (2) hour intervals and proportioned according to flow.
- 2. "Continuous" measurement, is a measurement obtained from an automatic recording device which continually measures provides measurements.
- 3. "Chronic Lethality" occurs when a statistically significant difference, at the 95 % confidence level, occurs in the chronic test between the mortality of the test species in a dilution corresponding to the chronic Instream Waste Concentration (IWC) and the control.
- 4. "Daily Maximum limitation" means the limitation for this parameter shall be applied as an instantaneous maximum (or, for pH or DO, instantaneous minimum) value. The instantaneous value is defined as the analytical result of any individual sample. DMRs shall include the maximum (and/or minimum) of all instantaneous values within the calendar month. Any instantaneous value beyond the noted daily maximum limitation for the indicated parameter shall be considered a violation of this permit.
- 5. "Grab" sample, is a single "dip and take" sample so as to be representative of the parameter being monitored.
- 6. "Instantaneous" measurement is a single reading, observation, or measurement performed on site using existing monitoring facilities.
- 7. "Quarterly measurement frequency" means samples may be collected at any time during the calendar quarter if a continual discharge occurs. If the discharge is intermittent, then samples shall be collected during the period that discharge occurs.

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C. DEFINITIONS OF TERMS (continued)

8. "Seven (7) day average" means, with the exception of fecal coliform bacteria, the arithmetic mean of all samples collected in a seven (7) consecutive day period. For fecal coliform bacteria, it is the geometric mean of all samples taken in a seven (7) consecutive day period. Such seven (7) day averages shall be calculated for all calendar weeks, which are defined as beginning on Sunday and ending on Saturday. If the calendar week overlaps two months (i.e. the Sunday is in one month and the Saturday in the following month), the seven (7) day average calculated for that calendar week shall be associated with the month that contains the Saturday. Samples may not be used for more than one (1) reporting period. (Not applicable to fecal coliform determinations.)
9. "Thirty (30) day average" means, except for fecal coliform bacteria, the arithmetic mean of all samples collected during a thirty (30) consecutive-day period. For fecal coliform bacteria, it is the geometric mean of all samples collected in a thirty (30) day period. The permittee shall report the appropriate mean of all self-monitoring sample data collected during the calendar month on the Discharge Monitoring Reports. Samples shall not be used for more than one (1) reporting period.
10. "Visual" observation is observing the discharge to check for the presence of a visible sheen or floating oil.
11. "Water Quality Control Division" or "Division" means the state Water Quality Control Division as established in 25-8-101 et al.)

D. REPORTING

1. Signatory Requirements

All reports required for submittal shall be signed and certified for accuracy by the permittee in accord with the following criteria:

- a) In the case of corporations, by a principal executive officer of at least the level of vice-president or his or her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the form originates;
- b) In the case of a partnership, by a general partner;
- c) In the case of a sole proprietorship, by the proprietor;
- d) In the case of a municipal, state, or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

E. SPECIAL REQUIREMENTS

1. Materials Containment Plan

Pursuant to Sections 6.9.3 (5) and (6)(b) of the Regulations for the State Discharge Permit System, the permittee is required to submit a Materials Containment Plan. Such a plan shall be submitted to the Permits and Enforcement Section, Water Quality Control Division within ninety (90) days after the effective date of this permit and must be implemented. The plan shall include information and procedures for the prevention and containment of spills of materials used, processed or stored at the facility which if spilled would have a reasonable probability of having a visible or otherwise detrimental impact on waters of the State ^{1/2}. The plan shall include, but not necessarily be limited to:

- a) A history of the spills which have occurred in the three (3) years preceding the effective date of this permit. The history shall include a discussion on the cause of the spills and the preventative measures designed to eliminate them from reoccurring;

E. SPECIAL REQUIREMENTS

1. Materials Containment Plan (continued)

- b) A description of the reporting system which will be used to notify, at a minimum, responsible facility management, the Water Quality Control Division, the Environmental Protection Agency, downstream water users within 5 miles downstream of the facility, and local health officials;
- c) A description of preventative facilities (including overall facility plot) which prevent, contain, or treat spills and unplanned discharges;
- d) A list which includes the volumes or quantities of all materials used, processed, or stored at the facility which represent a potential spill threat to surface waters. The location of stored material shall be indicated on the facility plot submitted for item c;
- e) An implementation schedule for additional facilities which might be required in item c, but which are not yet operational;
- f) A list of available outside contractors, agencies, or other sources which could be utilized in the event of a spill in order to clean up its effects. If the facility is capable of handling spills in-house, this shall be documented in the plan;
- g) Provision for yearly review and updating of the contingency plan, plus resubmission of the plan to the Division if conditions and/or procedures at the facility change the original plan.

The foregoing provisions shall in no way render inapplicable those requirements imposed by Section 311 of the Water Pollution Control Act Amendments of 1972, regulations promulgated thereunder, the Colorado Water Quality Control Act, and regulations promulgated thereunder. It is recommended that this plan be prepared by a professional engineer registered in the State of Colorado.

Nothing herein contained shall be construed as allowing any discharge to waters of the State other than through the discharge points specifically authorized in this permit. Nothing herein contained shall be construed as excusing any liability the permittee might have, civil or criminal, for any spill.

The submittal of a Spill Prevention Control and Countermeasure Plan (SPCC Plan) as required by 40 CFR Part 112 may satisfy all or part of this requirement. Should additional materials exist on site which are not addressed in the SPCC Plan, addressing those materials as per the above is required.

1/ If there is no such material present at the site, this shall be indicated in writing and submitted to the Division for review.

2/ If there is material present but the permittee feels there is not a reasonable probability of a spill impacting waters of the State, this shall be documented in writing and submitted to the Division for review. This documentation shall include; 1) distance to nearest surface waters, and; 2) a detailed description of any structure which prohibits the release of material onto the ground or into a conveyance system.

F. GENERAL REQUIREMENTS

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other wastestream, body of water, or substance. Monitoring points shall not be changed without notification to and approval by the Division.

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F. GENERAL REQUIREMENTS

2. Analytical and Sampling Methods for Monitoring

The permittee shall install, calibrate, use and maintain monitoring methods and equipment, including biological and indicated pollutant monitoring methods. Analytical and sampling methods utilized by the discharger shall be approved methods as defined by Colorado Regulations for Effluent Limitations (5 CCR 1002-3, 10.1.5), and federal regulations (40 CFR 136) and any other applicable State or Federal regulations. The analytical method selected for a parameter shall be the one that can measure the lowest detected limit for that parameter unless the permit limitation or stream standard for those parameters not limited, is within the testing range of another approved method. When requested in writing, the Water Quality Control Division may approve an alternative analytical procedure or any significant modification to an approved procedure.

When the most sensitive analytical method which complies with this part, has a detection limit greater than or equal to the permit limit, the permittee shall report "less than (the detectable limit)," as appropriate. Such reports shall not be considered as violations of the permit limit. The present lowest method detection limits for specific parameters (which have limitations which are, in some cases, less than or equal to the detection limit) are as follows:

Cadmium	0.0003 mg/ℓ
Copper	0.005 mg/ℓ
Lead	0.005 mg/ℓ
Silver	0.0002 mg/ℓ
Zinc	0.05 mg/ℓ

These limits apply to the total recoverable or the potentially dissolved fraction of metals.

3. Records

The permittee shall establish and maintain records. Those records shall include the following:

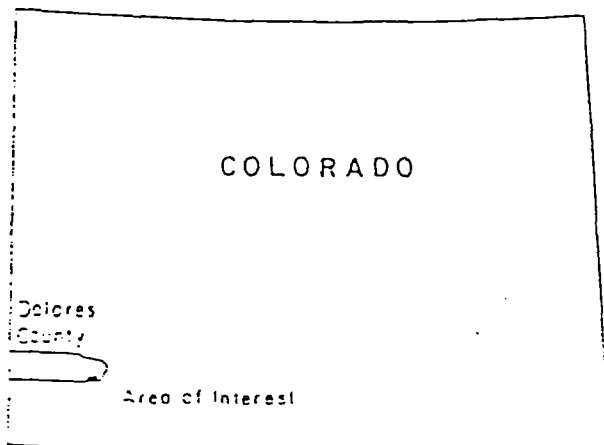
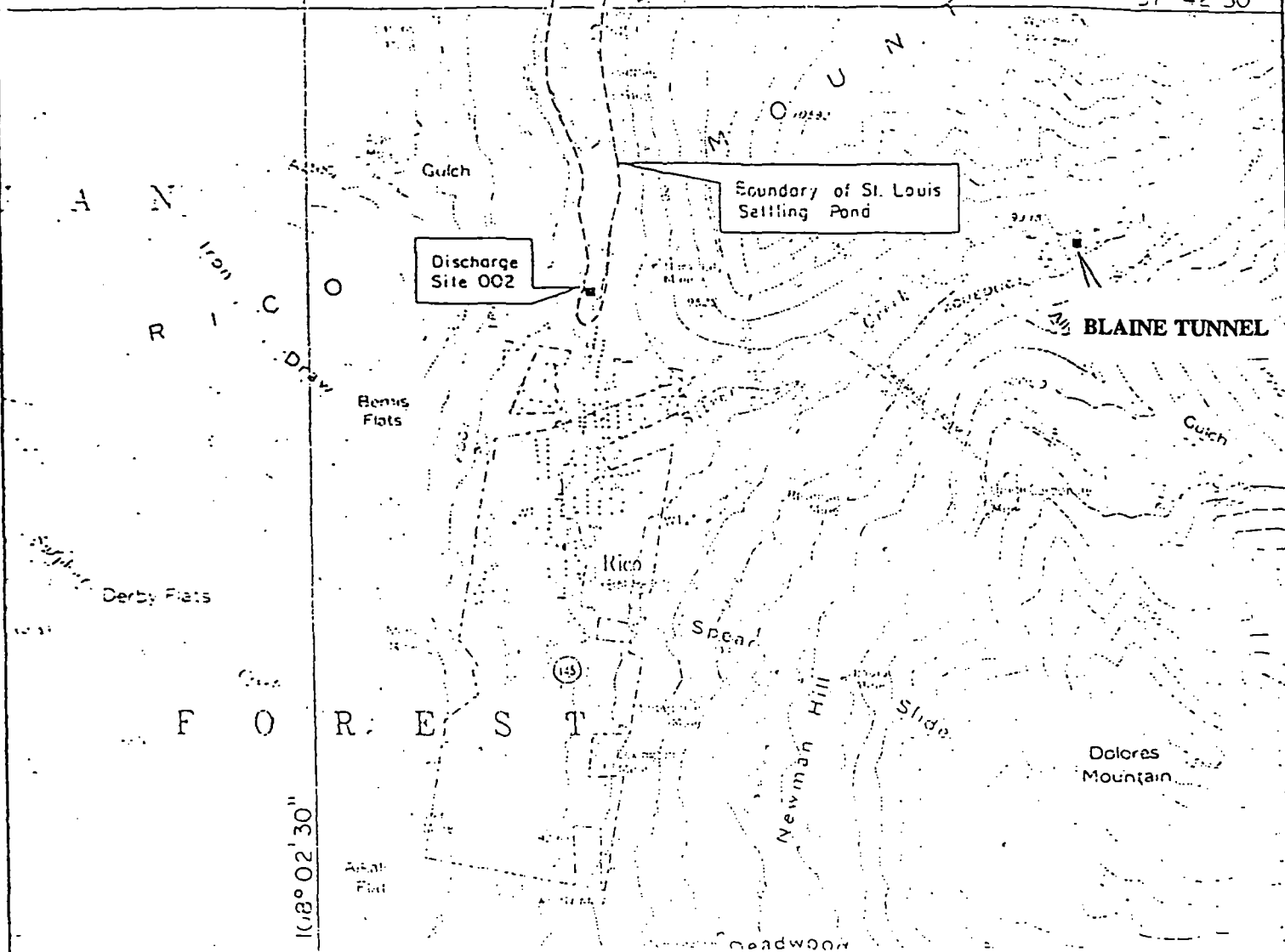
- The date, type, exact location, and time of sampling or measurements;
- The individual(s) who performed the sampling or measurements;
- The date(s) the analyses were performed;
- The individual(s) who performed the analyses;
- The analytical techniques or methods used;
- The results of such analyses; and
- Any other observations which may result in an impact on the quality or quantity of the discharge as indicated in 40 CFR 122.44 (i)(1)(iii).

The permittee shall retain for a minimum of three (3) years records of all monitoring information, including all original strip chart recordings for continuous monitoring instrumentation, all calibration and maintenance records, copies of all reports required by this permit and records of all data used to complete the application for this permit. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or when requested by the Division.

4. Flow Measuring Device

If not already a part of the permitted facility, within ninety (90) days after the effective date of the permit, a flow measuring device shall be installed to give representative values of effluent quantities at the respective discharge points. Unless specifically exempted, or modified in Part I.B.2 of this permit, a flow measuring device will be applicable at all designated discharge points.

At the request of the Water Quality Control Division, the permittee shall show proof of the accuracy of any flow-measuring device used in obtaining data submitted in the monitoring report. The flow-measuring device must indicate values within ten (10) percent of the actual flow being discharged from the facility



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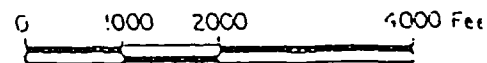
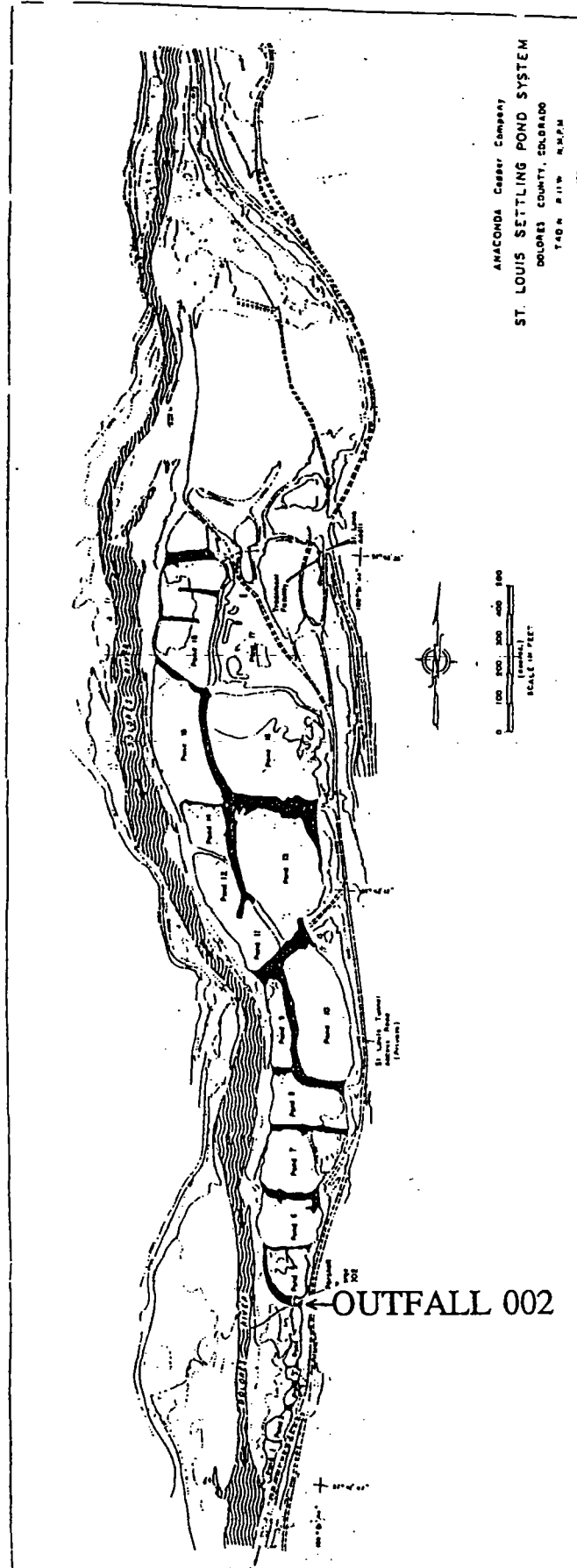


FIGURE 1
 RICO DEVELOPMENT CORPORATION
 FACILITY LOCATION



PART I
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Permit No. CO-0029793

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FIGURE 2
RICO DEVELOPMENT CORPORATION
DISCHARGE LOCATION

PART II

A. MANAGEMENT REQUIREMENTS

1. Change in Discharge

The permittee shall inform the Division (Permits and Enforcement Section) in writing of any intent to construct, install, or alter any process, facility, or activity that is likely to result in a new or altered discharge, either in terms of location or effluent quality or quantity prior to the occurrence of the new or altered discharge, and shall furnish the Division such plans and specifications which the Division deems reasonably necessary to evaluate the effect on the discharge and receiving stream.

Process modifications include, but are not limited to, the introduction of any new pollutant not previously identified in the permit, or any other modifications which may result in a discharge of a quantity or quality different from that which was evaluated in the drafting of the permit including subsequent amendments. Following such notice, the permittee may be required to submit a new or revised CDPS application and the permit may be modified to specify and limit any pollutants not previously limited, if the new or altered discharge might be inconsistent with the conditions of the existing permit. In no case shall the permittee implement such change without first modifying the permit to reflect the change or obtaining confirmation from the Division that no change is required in the permit.

2. Special Notifications - Definitions

- a) Bypass: The intentional diversion of waste streams from any portion of a treatment facility.
- b) Severe Property Damage: Substantial physical damage to property at the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. It does not mean economic loss caused by delays in production.
- c) Spill: An incident in which flows or solid materials are accidentally or unintentionally allowed to flow or escape so as to be lost from the treatment, processing or manufacturing system which may cause or threaten pollution of state waters.
- d) Upset: An exceptional incident in which there is unintentional and temporary noncompliance with permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

3. Noncompliance Notification

- a) If, for any reason, the permittee does not comply with or will be unable to comply with any discharge limitations or standards specified in this permit, the permittee shall, at a minimum, provide the Water Quality Control Division and EPA with the following information:
 - (i) A description of the discharge and cause of noncompliance;
 - (ii) The period of noncompliance, including exact dates and times and/or the anticipated time when the discharge will return to compliance; and
 - (iii) Steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

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A. MANAGEMENT REQUIREMENTS

3. Noncompliance Notification (Continued)

- b) The permittee shall report the following instances of noncompliance orally within twenty-four (24) hours from the time the permittee becomes aware of the noncompliance, and shall mail to the Division a written report within five (5) days after becoming aware of the noncompliance:
- (i) Any instance of noncompliance which may endanger health or the environment regardless of the cause of the incident;
 - (ii) Any unanticipated bypass;
 - (iii) Any upset or spill which causes an exceedance of any effluent limitation in the permit;
 - (iv) Daily maximum violations for any toxic pollutants or hazardous substances limited by PART I.A. of this permit and specified as requiring 24 hour notification.
- c) The permittee shall report all other instances of non-compliance which are not required to be reported within 24-hours at the time Discharge Monitoring Reports are submitted. The reports shall contain the information listed in sub-paragraph (a) of this section.

4. Submission of Incorrect or Incomplete Information

Where the permittee failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or report to the Division, the permittee shall promptly submit the relevant information which was not submitted or any additional information needed to correct any erroneous information previously submitted.

5. Bypass

- a) The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it is also essential maintenance to assure efficient operation. Division notification is not required.
- b) A bypass which causes effluent limitations to be exceeded is prohibited, and the Division may take enforcement action against a permittee for such a bypass, unless:
- (i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 - (iii) The permittee submitted notices as required in "Bypass Notification", Part II.A.6.

6. Bypass Notification

If the permittee knows in advance of the need for a bypass, a notice shall be submitted, at least ten days before the date of the bypass, to the Division. The bypass shall be subject to Division approval and limitations imposed by the Division. Violations of requirements imposed by the Division will constitute a violation of this permit.

A. MANAGEMENT REQUIREMENTS

7. Upsets

a) Effect of an Upset

An upset constitutes an affirmative defense to an action brought for noncompliance with permit effluent limitations if the requirements of paragraph (b) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

b) Conditions Necessary for a Demonstration of Upset

A permittee who wishes to establish the affirmative defense of upset shall demonstrate through properly signed contemporaneous operating logs, or other relevant evidence that:

- (i) An upset occurred and that the permittee can identify the specific cause(s) of the upset; and
- (ii) The permitted facility was at the time being properly operated; and
- (iii) The permittee submitted notice of the upset as required in Part II.A.3. of this permit (24-hour notice); and
- (iv) The permittee complied with any remedial measures required under 40 CFR 122.7(d) of the federal regulations.

c) Burden of Proof

In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

8. Removed Substances

Solids, sludges, or other pollutants removed in the course of treatment or control of wastewaters shall be properly disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State.

For all domestic wastewater treatment works, at industrial facilities, the permittee shall dispose of sludge in accordance with all State and Federal regulations.

9. Minimization of Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to waters of the State resulting from noncompliance with any effluent limitations specified in this permit. As necessary, accelerated or additional monitoring to determine the nature and impact of the noncomplying discharge is required.

10. Discharge Point

Any discharge to the waters of the State from a point source other than specifically authorized by this permit is prohibited.

11. Reduction, Loss, or Failure of Treatment Facility

The permittee has the duty to halt or reduce any activity if necessary to maintain compliance with the effluent limitations of the permit. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production, control sources of wastewater, or all discharges, until the facility is restored or an alternative method of treatment is provided. This provision also applies to power failures, unless an alternative power source sufficient to operate the wastewater control facilities is provided.

A. MANAGEMENT REQUIREMENTS

11. Reduction, Loss, or Failure of Treatment Facility (continued)

It shall not be a defense for a permittee in an enforcement action that it would be necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

12. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

B. RESPONSIBILITIES

1. Inspections and Right to Entry

The permittee shall allow the Director of the Water Quality Control Division and/or the authorized representative, upon the presentation of credentials:

- a) To enter upon the permittee's premises where a regulated facility or activity is located or in which any records are required to be kept under the terms and conditions of this permit;
- b) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit and to inspect any monitoring equipment or monitoring method required in the permit; and
- c) To enter upon the permittee's premises in a reasonable manner and at a reasonable time to inspect and/or investigate, any actual, suspected, or potential source of water pollution, or to ascertain compliance or non compliance with the Colorado Water Quality Control Act or any other applicable state or federal statute or regulation or any order promulgated by the Division. The investigation may include, but is not limited to, the following: sampling of any discharge and/or process waters, the taking of photographs, interviewing of any person having knowledge related to the discharge permit or alleged violation, access to any and all facilities or areas within the permittee's premises that may have any affect on the discharge, permit, or alleged violation.
- d) The Division shall split samples taken by the Division during any investigation with the permittee if requested to do so by the permittee.

2. Duty to Provide Information

The permittee shall furnish to the Division, within a reasonable time, any information which the Division may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Division, upon request, copies of records required to be kept by this permit.

3. Transfer of Ownership or Control

A permit may be transferred to a new permittee only upon the completion of the following:

- a) The current permittee notifies the Division in writing 30 days in advance of the proposed transfer date; and
- b) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage and liability between them; and

B. RESPONSIBILITIES

3. Transfer of Ownership or Control (continued)

- c) Fee requirements of the State Discharge Permit System Regulations, Section 6.16.0 have been met.

4. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Clean Water Act and Regulations for the State Discharge Permit System 5 CCR 1002-2, 6.6.4 (2), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Water Quality Control Division and the Environmental Protection Agency.

As required by the Federal Clean Water Act, effluent data shall not be considered confidential. Knowingly making false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Clean Water Act, and Section 25-8-610 C.R.S.

5. Modification, Suspension, or Revocation of Permits By the Division

The filing of a request by the permittee for a permit modification, revocation and reissuance, inactivation or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

All permit modification, termination or revocation and reissuance actions shall be subject to the requirements of the State Discharge Permit System Regulations, Sections 6.6.2, 6.6.3, 6.8.0 and 6.16.0, 5 C.C.R. 1002-2, except for minor modifications.

- a) This permit may be modified, suspended, or revoked in whole or in part during its term for reasons determined by the Division including but not limited to, the following:
 - (i) Violation of any terms or conditions of the permit;
 - (ii) Obtaining a permit by misrepresentation or failing to disclose any fact which is material to the granting or denial of a permit or to the establishment of terms or conditions of the permit;
 - (iii) Materially false or inaccurate statements or information in the application for the permit;
 - (iv) Promulgation of toxic effluent standards or prohibitions (including any schedule of compliance specified in such effluent standard or prohibition) which are established under Section 307 of the Clean Water Act, where such a toxic pollutant is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit.
 - (v) Promulgation of Water Quality Standards applicable to waters affected by the permitted discharge; or
 - (vi) Effluent limitations or other requirements applicable pursuant to the State Act or federal requirements; or
 - (vii) Control regulations promulgated; or
 - (viii) Data submitted pursuant to Part I.B indicates a potential for violation of adopted Water Quality Standards or stream classifications.
 - (ix) Removal of a temporary modification to a stream standard thereby requiring the application of the stream standard.

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B. RESPONSIBILITIES

5. Modification, Suspension, or Revocation of Permits By the Division (continued)

- (x) This permit may be modified in whole or in part to include any conditions where data submitted pursuant to Part I.B.3 indicates that such conditions are necessary to ensure compliance with applicable water quality standards and protection of classified uses.
- (b) At the request of the permittee, the Division may modify or terminate this permit if the following conditions are met:
 - (i) In the case of termination, the permittee notifies the Division of its intent to terminate the permit 90 days prior to the desired date of termination and the permittee has ceased any and all discharges to state waters and demonstrates to the Division there is no probability of further uncontrolled discharge(s) which may affect waters of the State.
 - (ii) The Environmental Protection Agency has been notified of the proposed modification or termination and does not object in writing within thirty (30) days of receipt of notification;
 - (iii) The Division finds that the permittee has shown reasonable grounds consistent with the Federal and State statutes and regulations for such modification, amendment or termination;
 - (iv) Fee requirements of Section 6.16.0 of State Discharge Permit System Regulations have been met; and
 - (v) Requirements of public notice have been met.

6. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 (Oil and Hazardous Substance Liability) of the Clean Water Act.

7. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority granted by Section 510 of the Clean Water Act.

8. Permit Violations

Failure to comply with any terms and/or conditions of this permit shall be a violation of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.

9. Property Rights

The issuance of this permit does not convey any property or water rights in either real or personal property, or stream flows, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

10. Severability

The provisions of this permit are severable. If any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the application of the remainder of this permit shall not be affected.

B. RESPONSIBILITIES

11. Renewal Application

If the permittee desires to continue to discharge, a permit renewal application shall be submitted at least one hundred eighty (180) days before this permit expires. If the permittee anticipates there will be no discharge after the expiration date of this permit, the Division should be promptly notified so that it can terminate the permit in accordance with Part II.B.6.

12. Confidentiality

Any information relating to any secret process, method of manufacture or production, or sales or marketing data which has been declared confidential by the permittee, and which may be acquired, ascertained, or discovered, whether in any sampling investigation, emergency investigation, or otherwise, shall not be publicly disclosed by any member, officer, or employee of the Commission or the Division, but shall be kept confidential. Any person seeking to invoke the protection of this Subsection (11) shall bear the burden of proving its applicability. This section shall never be interpreted as preventing full disclosure of effluent data.

13. Fees

The permittee is required to submit payment of an annual fee as set forth in the 1983 amendments to the Water Quality Control Act. Section 25-8-502 (1) (b), and State Discharge Permit Regulations 5 CCR 1002-2, Section 6.16.0 as amended. Failure to submit the required fee when due and payable is a violation of the permit and will result in enforcement action pursuant to Section 25-8-601 et. seq., C.R.S. 1973 as amended.

SECTION 153 + 20
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DATE
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CAT12 0383

COLORADO DISCHARGE PERMIT SYSTEM (CDPS)

SUMMARY OF RATIONALE

RICO DEVELOPMENT CORPORATION

ST. LOUIS TUNNEL MINE AND MILL SITE

CDPS PERMIT NUMBER CO-0029793, DOLORES COUNTY

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I. TYPE OF PERMIT

Major - Third Renewal

II. FACILITY INFORMATION

**A. Facility Type and
Fee Categories:
Annual Fee:**

*Hardrock Mining, Mine drainage, 1,000,000 gpd or over
Category 03, Subcategory 3
\$1519*

B. Legal Contact:

*David L. Sell, Attorney
c/o McMichael, Benedict & Multz
for Rico Development Corporation
1580 Lincoln Street, Suite 900
Denver, CO 80203
(303)+837-1580 FAX: (303)+837-8977*

C. Facility Contact:

*Wayne E. Webster, Site Manager
Rico Development Corporation
Burley Building
P.O. Box 130
Rico, CO 80524
(303)+967-2152*

D. Facility Location:

*In sections 24 and 25, T40N, R11W; on Highway 145, approximately one
mile north of Rico, CO*

E. Discharge Point:

*Outfall 002 is the discharge from pond 5 to the Dolores River. Outfall
001, previously the discharge from the Blaine Tunnel to Silver Creek, (an
emergency bypass discharge point) no longer exists. The permittee has
constructed a barrier and routed this flow to the St. Louis Tunnel.*

III. RECEIVING STREAM

A. Identification, Classification and Standards

1. Identification: Discharges to the Dolores River, Segment 2 of the Dolores River Sub-basin of the San Juan and Dolores Rivers Basin.
2. Classification: Stream segment 2 is classified for the following uses: Recreation, Class 2; Aquatic Life, Class 1 (Cold); Water Supply; Agriculture.
3. Numeric Standards: The complete list of standards which have been assigned in accordance with the above classification can be found in 3.4.0, Classifications and Numeric Standards for the San Juan and Dolores River Basins (5 CCR 1002-8). The following numeric standards which have been assigned in accordance with the above classifications will be used to develop effluent limitations.

Physical and Biological

pH = 6.5 - 9.0 s.u.

Metals The following table summarizes the metals standards for segment 2 for all uses. The most stringent of these will be used in calculating effluent limitations.

Table III-1 Metals Standards Summary - Dolores River, Segment 2 of the Dolores River Sub-basin of the San Juan and Dolores Rivers Basin, All Concentrations Are ug/l

Parameter	Aquatic Life Use	Agricultural Use
	Total Recoverable Method*	Total Recoverable Method*
	Acute	Chronic
Cadmium	0.4	10
Copper	6	200
Lead	4	100
Silver	0.1	-
Zinc	100	2000

* Aquatic Life Use standards and Agricultural standards are based upon the total recoverable method of analysis.

B. Receiving Water Data

1. Quality: Quality data for the Dolores River are available from sampling records of CDH station 10716, located upstream of the Rico Development Corporation discharge. A summary of the quality data for the period May, 1992, through January, 1993, is shown in Table III-2.

Table III-2 -- Quality of Receiving Water (all metals are dissolved fraction)

Parameter	No. of Samples	Median	Min/Max
pH, s.u.	9	8.4	8.0-8.6
Total Hardness, mg/l as CaCO ₃	9	190	77/300
Cadmium, ug/l	9	0.5	<0.25/1.2
Copper, ug/l	9	0	<4/<4

Parameter	No. of Samples	Median	Min/Max
Iron, ug/l	9	39	<10/640
Lead, ug/l	9	0	<5/<5
Manganese, ug/l	9	81	12/260
Mercury, ug/l	9	0	<0.2/<0.2
Silver, ug/l	9	0	<0.2/<0.2
Zinc, ug/l	9	54	10/120

2. Quantity, Acute and Chronic Low Flows: The flows which will be used to calculate acute and chronic effluent limitations are the one day in three year low flow (1E3) and the 30 day in three year low flow (30E3) respectively. Those flows have been determined for the Dolores River by the Water Quality Control Division, and are as follows (all flows in cubic feet per second):

Table III-3 -- Acute and Chronic Low Flows

	Acute	Chronic
Annual	9	12

IV. FACILITY DESCRIPTION

A. Industry Description

1. Type of Industry: The facility is an inactive exploratory lead, silver and zinc mining and milling operation. It has been inactive for several years. Previous operators have mined and milled ore at the site.
2. Sources to the Treatment Plant: Mine drainage flows to the treatment plant.

B. Wastewater Treatment Description

The wastewater treatment system has not changed since the previous permit. However, previously, outfall 001 existed as an emergency bypass from the Blaine Tunnel. In 1990, the permittee constructed a concrete barrier to prevent discharge from this point, thus eliminating outfall 001. All drainage at this point is piped to the St. Louis Tunnel where it is pumped to the wastewater treatment facility.

Pursuant to the authority of Article 9, Title 25, Regulations for the Certification of Water Treatment Plant and Wastewater Treatment Plant Operators, this facility will require a certified operator.

V. PERFORMANCE HISTORY

A. Monitoring Data

1. Discharge Monitoring Reports: Table V-1 summarizes the effluent data reported on the monthly Discharge Monitoring Reports (DMR's) for the Rico Development Corporation facility for outfall 002 from January through December, 1992. No discharge was reported from outfall 001.

Table V-1 -- Self-Monitoring Results For Outfall 002

Parameter	No. of Reporting Periods	Reported Concentrations Avg/Min/Max	Previous Permit Limitation	No. of Limitation Excursions
Flow, MGD (30-day avg)	12	0.825/0.747/1.00	2,6	0
Flow, MGD (Daily Max)	12	0.871/0.747/1.17	none	-
TSS, mg/l (30-day avg)	12	2/<1/9	20	0
TSS, mg/l (Daily Max)	12	4/<1/16	30	0
Oil & Grease, mg/l	12	1/	10	0
pH, s.u.	12	-16.6/7.9	6.5-9.0	0
Total Dissolved Solids, mg/l	12	1147/1060/1212	2/	2/
Whole Effluent Toxicity, Acute	4	see discussion	IWC=44%	see discussion
Whole Effluent Toxicity, Chronic	4	see discussion	none	see discussion
Cadmium (TR), lb/day (30-day avg)	12	0.058/<0.052/<0.10 3/	4/	2
Cadmium (TR), lb/day (Daily Max)	12	0.093/<0.10/0.60 3/	4/	1
Copper (TR), mg/l (30-day avg)	12	0.013/<0.03/0.035 3/	0.03	1
Copper (TR), mg/l (Daily Max)	12	0.019/<0.06/0.075 3/	0.06	1
Lead (TR), mg/l (30-day avg)	12	0.001/<0.001/0.015	0.009	1
Lead (TR), mg/l (Daily Max)	12	0.003/<0.002/0.03	0.018	1
Silver (TR), lb/day (30-day avg)	12	0.002/<0.0018/0.0134	4/	2
Silver (TR), lb/day (Daily Max)	12	0.003/<0.010/0.020	4/	2
Zinc (TR), lb/day (30-day avg)	12	5.7/2.1/14.5	9.5	1
Zinc (TR), lb/day (Daily Max)	12	6.7/3.8/17.8	19.0	0

TR means the total recoverable fraction, as defined in the Basic Standards and Methodologies for Surface Water (3.1.0).

1/ The permittee reported "0" each reporting period. This is assumed to mean that no sheen was observed, thus the concentration was less than 10 mg/l.

2/ There is no specific limitation in the permit, however the Salinity Regulations limit discharges to one ton per day. The values in the table equate to 3.9/4.4 tons/day (mean/max). See section VI.A.3.e) for further discussion.

3/ While actual reported values may be less than the indicated "<" value, this value can vary from zero to the stated value and is assumed to be the lowest reported value.

4/ This parameter had seasonal limitations. See previous permit for specific limitations.

2. State Sampling: There are no state sampling results available for this facility.

B. Compliance With Terms and Conditions of Previous Permit

1. Effluent Limitations: The data shown in the preceding table indicate several exceedences of permit limitations. The permittee has a long history of permit non-compliance. Metals and TSS: The Division issued a Notice of Violation and Cease & Desist Order (NOV, C&D) on May 18, 1990 for violations of Lead, Silver and TSS effluent limitations from December, 1989 through March, 1990. The permittee paid a civil penalty in May, 1993 for these violations. Another NOV, C&D was issued on June 29, 1993 for violations of Cadmium, Copper, Lead, Silver and Zinc effluent limitations from March through November, 1992. Whole Effluent Toxicity: The facility has had several failures of the acute and chronic WET tests. They did not conduct accelerated monitoring, as required under the previous permit, nor have they identified the specific cause(s) of the toxicity. This monitoring history demonstrates chronic non-compliance with no significant action taken regarding treatment improvements or other methods for achieving compliance. They have very recently hired a consultant to recommend treatment changes and/or improvements. The Division met with the permittee in October, 1993, at which time the permittee's consultant outlined preliminary changes.
2. Other Permit Requirements: The permittee appears to have been in compliance with other terms and conditions of the permit.

VI. TERMS AND CONDITIONS OF PERMIT

A. Determination of Effluent Limitations

1. Effluent Limitations: The following limitations will apply and are discussed in Sections VI.A.2 and VI.A.3.

Table VI-1 -- Effluent Limitations for Outfall 002

Parameter	Limitation		Rationale
Flow, MGD	2.6	a/	Design Capacity
TSS, mg/l	20/30	b/	Best Professional Judgment
Oil and Grease, mg/l	10	c/	State Effluent Regulations
pH, s.u.	6.5 - 9.0	d/	Water Quality Standards
TDS, mg/l	Report		Salinity Regulations
WET, Chronic Lethality	Statistical Difference c/		State Permit Regulations
Cadmium (TR), mg/l through 01/31/95			
Jan-Apr	0.0024/0.0048	b/	Interim Limitations
May-Jul	0.0055/0.011	b/	Interim Limitations
Aug-Dec	0.0035/0.007	b/	Interim Limitations
beginning 02/01/95	0.0004	a/	Water Quality Standards
Copper (TR), mg/l through 01/31/95	0.03/0.06	b/	Interim Limitations
beginning 02/01/95	0.024	a/	Water Quality Standards
Lead (TR), mg/l	0.0099	a/	Antidegradation
Silver (TR), mg/l through 01/31/95			
Jan-Apr	0.0002/0.0004	b/	Interim Limitations
May-Jul	0.0006/0.0012	b/	Interim Limitations
Aug-Dec	0.0004/0.0008	b/	Interim Limitations
beginning 02/01/95	0.0001	a/	Antidegradation
Zinc (TR), mg/l through 01/31/95	0.44/0.88	b/	Interim Limitations
beginning 02/01/95	0.237	a/	Water Quality Standards

TR means total recoverable fraction as defined in the Basic Standards and Methodologies For Surface Water.

a/ 30-day average
b/ 30-day average/daily maximum
c/ Daily Maximum
d/ Minimum-Maximum

2. Calculation of Water Quality Based Effluent Limitations A mass balance equation was used to determine the effluent concentrations that would not violate the allowable in-stream concentrations defined by the water quality standards (except in the case of pH, where the limitations are set directly from stream standards or effluent regulations without using a mass balance approach). The mass balance equation is:

$$M_2 = \frac{M_3Q_3 - M_1Q_1}{Q_2}$$

Where:

Q₁ = Upstream low flow (IE3 or 30E3) from Part III.B.2
Q₂ = Average daily effluent flow (design capacity)
Q₃ = Combined downstream flow (Q₁ + Q₂)
M₁ = Upstream background pollutant concentration from III.B.1
M₂ = Unknown; Maximum allowable effluent pollutant concentration calculated using mass balance equation
M₃ = Maximum downstream allowable pollutant concentration (stream standard)

Because of the mathematical relationship between flow, pollutant concentration and pollutant mass, concentration limitations calculated using this method implicitly limit instream pollutant mass to the maximum allowable level. Also, only flow and concentration limitations need to be specified in the permit. Mass limitations are not required. A summary of the mass balance calculations is shown and discussed in VI.A.3.

3. Discussion of Effluent Limitations

The basis for the effluent limitations for pH, oil and grease and total dissolved solids is unchanged from the previous permit. Please see previous rationale for the discussion.

- a) Regulations for Effluent Limitations: The Regulations for Effluent Limitations (10.1.0), apply to the conventional pollutants. For this facility, the limitation for Oil and Grease is based on this regulation.
- b) Applicable Federal Effluent Guidelines and Standards: No federal guidelines directly apply to this facility while it is inactive. However, the Division is using best professional judgment (BPJ) to evaluate the guidelines contained in the Ore Mining and Dressing Point Source Category (40 CFR 440), as they may apply to this facility. Subpart J (40 CFR 440.100) addresses discharges from mines that produce copper, lead, zinc, gold, silver and molybdenum ores. In the past, this facility has produced precious metals and it may do so at some time in the future. The wastewater treatment facility described in section IV. is designed to treat wastewater generated by such mining operations.

The limitations evaluated are:

Table VI-2 -- Federal Standards (40 CFR 440.102(a) and 440.103(a)). (all limitations expressed as mg/l unless otherwise specified)

Parameter	30-Day Avg. Concentration	Daily Max. Concentration
Total Suspended Solids	20	30
Total Copper	0.15	0.30
Total Lead	0.3	0.6
Total Mercury	0.001	0.002
Total Zinc	0.75	1.5
pH, s.u.	--6.0 to 9.0--	

- c) Pollutants Limited by Water Quality Standards: For the parameters shown in Table VI-3, the mass balance equation shown in VI.A.2. was used to calculate the allowable effluent limitations that would not cause the water quality standards to be violated. These limitations are shown as the values for M_2 in Table VI-3. The values for Q_1 , Q_2 and Q_3 for chronic limitations, taken from section III.B.2. of this rationale, and used in the calculations for water quality limited parameters are shown in the table. Limitations that would not trigger a full antidegradation review also were calculated. These are shown in section VI.A.1.d), Table VI-4. These antidegradation limitations were compared with the limitations in Table VI-3, the lower limitations between the two tables apply.

Flow	Chronic (30E3)
Q_1	12 cfs
Q_2	4.0 cfs
Q_3	16 cfs

Values for M_1 and M_3 vary depending on the background stream quality data (M_1) and the applicable water quality standard (M_3). These values are also shown in section III.

Table VI-3 -- Summary of Mass Balance Calculations for Outfall 002

Parameter	Stream Standard, (M3), Chronic	Effluent Concentration, (M2), Chronic
Cadmium (TR), mg/l	0.0004	0.0004
Copper (TR), mg/l	0.006	0.024
Lead (TR), mg/l	0.004	0.016
Silver (TR), mg/l	0.0001	0.0004
Zinc (TR), mg/l	0.100	0.237

TR means the total recoverable fraction, as defined in the Basic Standards and Methodologies for Surface Water.

Metals effluent limitations were calculated using a design flow of 2.6 MGD, the metals standards listed in section III.A.3. of this rationale, the annual chronic low-flow listed in section III.B.2. and upstream concentrations shown in Table III-2.

For standards based upon the total recoverable methods of analysis, the limitations are based upon the same method as the standard. Table VI-3 lists the effluent limitations that were calculated. The limitations listed in Table VI-3 were evaluated for inclusion in the permit. Additionally, to comply with antidegradation regulations, the limitations were compared to the previous limitations; the Division is prohibited from applying limitations that result in a greater loading without complying with all antidegradation requirements (see next section). The likelihood of metals concentrations being found in the effluent at levels approaching the calculated limitation and the measured concentrations listed in section V.A. were factors considered in this evaluation.

- d) Antidegradation: The Basic Standards and Methodologies for Surface Waters, 3.1.0, set out the antidegradation process. The purpose of the review is to make a determination on whether degradation is necessary to accommodate important economic or social development in an area. Part 3.1.8(d) of this regulation outlines what is needed for this determination. The review can be avoided if a determination is made that the discharge does not significantly degrade the stream, as outlined in part 3.1.8(c). On this basis, limitations were calculated and are shown in Table VI-4. In this permit, the lead and silver antidegradation limitations are lower than the water quality standard based limitations. The limitations set in this permit for these two parameters are below the maximum levels determined by the Division at which further review is unnecessary (for lead - a level equal to 110% of the previous permit limitation, for silver - the level equal to 110% of the concentration equivalent of the lowest previous seasonal limitation).

Table VI-4 -- Summary of Antidegradation Limitations for Outfall 002

Parameter	Effluent Concentration, (M2), Chronic
Cadmium (TR), mg/l	0.0032
Copper (TR), mg/l	0.033
Lead (TR), mg/l	0.0099
Silver (TR), mg/l	0.0001
Zinc (TR), mg/l	0.5414

A full review may result in implementation of limitations which are based on the full assimilative capacity of the stream. The permittee may request that the review be completed at the time the permit is public noticed. Such request shall be accompanied by the submission of the information required in 3.1.8(d). The Division cannot issue the permit until such review is complete and the discharge is approved.

- e) Salinity Regulations: The Division determined at the time of the last permit renewal that this facility exceeded the level of TDS allowed under the Regulations for Implementation of the Colorado River Salinity Standards Through the Colorado Discharge Permit Program, (3.10.0).

In compliance with that renewal permit, a report addressing the economic feasibility of salt removal was submitted July 1, 1988. The report documented that such treatment was not feasible. Thus, the Division is exempting this facility from TDS limitations at this time. In compliance with the regulations, quarterly monitoring will continue.

- f) Whole Effluent Toxicity (WET) Testing At the time of the drafting of this renewal permit, the facility is subject to two separate permits, the permit issued by the Division and another issued by EPA. EPA's objection to the previous permit centered on WET testing and limitations. The permittee has requested in writing that conflicts between the two permits be resolved so that they can be consolidated into a single permit issued by the Division. Since the EPA permit was issued, Colorado promulgated new WET regulations that closely parallel EPA's current requirements. This renewal permit is drafted consistent with the guidance for implementation of new Colorado regulations and with EPA requirements.

For this facility, chronic WET testing is required. (See Parts I.A and I.B of the permit.)

- 1) Purpose of WET Testing: The Water Quality Control Division has established the use of WET testing as a method for identifying and controlling toxic discharges from wastewater treatment facilities. WET testing is being utilized as a means to ensure that there are no discharges of pollutants "in amounts, concentrations or combinations which are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life" as required by Section 3.1.11 (1)(d) of the Basic Standards and Methodologies for Surface Waters.
- 2) Instream Waste Concentration (IWC): Where monitoring or limitations for WET are deemed appropriate by the Division, chronic instream dilution as represented by the chronic IWC is critical to determining if acute or chronic conditions apply. For those discharges where the chronic IWC > 9.1%, chronic conditions apply, where the IWC is ≤ 9.1 acute conditions apply. The chronic IWC is determined using the following equation:

$$IWC = [Facility\ Flow\ (FF) / (Stream\ Chronic\ Low\ Flow\ (annual) + FF)] \times 100\%$$

The flows and corresponding IWC for the appropriate discharge point are:

Discharge Point	Chronic Low Flow, 30E3, (cfs)	Facility Design Flow, (cfs)	IWC, (%)
002	12	4.0	25

The IWC for this permit is 25%, which represents a wastewater concentration of 25% effluent to 75% receiving stream. Therefore, chronic conditions are applicable to this permit.

- 3) Chronic WET Limitations: The permittee has had several failures of the acute WET test under the previous permit. This indicates that the effluent is toxic and the Division believes there is reasonable potential for the discharge to interfere with attainment of applicable water quality classifications or standards. Further, the receiving water is an impacted stream segment which does not meet water quality standards, in part because of this discharge. For this reason, the facility has been required by EPA to be free from toxics by June 4, 1993. On these bases, the chronic limit has been incorporated into the permit and becomes effective immediately. The results of the testing are to be reported on Division approved forms. The permittee will be required to conduct two types of statistical derivations on the data, one looking for any statistically significant difference in toxicity between the control and the effluent concentrations and the second identifying the IC₅₀, should one exist.

Both sets of calculations will look at the full range of toxicity (lethality, growth and reproduction). If a level of chronic toxicity occurs, such that there is a statistically significant difference in the lethality (at the 95% confidence level) between the control and any effluent concentration less than or equal to the Instream Waste Concentration (IWC), the permittee will be required to follow the automatic compliance schedule identified in Part I.B of the permit, if the observed toxicity is due to organism lethality.

If the toxicity is due to differences in the growth of the fathead minnows or the reproduction of the Ceriodaphnia, no immediate action on the part of the permittee will be required. However, this incident, along with other WET data, will be evaluated by the Division and may form the basis for reopening the permit and including additional WET limits or other requirements.

- 4) General Information: The permittee should read the WET testing sections of Part I.A. and I.B. of the permit carefully. The permit outlines the test requirements and the required follow-up actions the permittee must take to resolve a toxicity incident. The permittee should read, along with the documents listed in Part I.B of the permit, the Colorado Water Quality Control Division Biomonitoring Guidance Document, dated July 1, 1993. This document outlines the criteria used by the Division in such areas as granting relief from WET testing, modifying test methods and changing test species.

The permittee should be aware that some of the conditions outlined above may be subject to change if the facility experiences a change in discharge, as outlined in Part II.A.1 of the permit. Such changes shall be reported to the Division immediately.

4. Stormwater Evaluation: Stormwater discharge permits are required for all active and inactive mining sites that discharge stormwater that has been contaminated by contact with overburden, raw material, intermediate products, byproducts, finished products or waste products located at the site, and is discharged to waters of the State.

The Division has no record of receipt of a stormwater discharge permit application for Rico Development Corp. The application deadline for existing mines, whether active or inactive, was October 1, 1992. Stormwater permitting issues for this facility will be handled separately by the Division's Stormwater Unit, although this permit may be reopened at a later date to incorporate stormwater provisions, if deemed appropriate.

5. Economic Reasonableness Evaluation: Section 25-8-503(8) of the revised (June 1985) Colorado Water Quality Control Act required the Division to "determine whether or not any or all of the water quality standard based effluent limitations are reasonably related to the economic, environmental, public health and energy impacts to the public and affected persons, and are in furtherance of the policies set forth in sections 25-8-192 and 25-8-104."

The Regulations for the State Discharge Permit System, 6.1.0, further define this requirement under 6.12.0 and state: "Where economic, environmental, public health and energy impacts to the public and affected persons have been considered in the classifications and standards setting process, permits written to meet the standards may be presumed to have taken into consideration economic factors unless:

- a) A new permit is issued where the discharge was not in existence at the time of the classification and standards rulemaking, or
- b) In the case of a continuing discharge, additional information or factors have emerged that were not anticipated or considered at the time of the classification and standards rulemaking."

The evaluation for this permit shows that the Water Quality Control Commission, during their proceedings to adopt the Classification and Numeric Standards for the San Juan and Dolores Rivers Basin, considered economic reasonableness.

Furthermore, this is not a new discharger and no new information has been presented regarding the classifications and standards. Therefore, the water quality standard-based effluent limitations of this permit are determined to be reasonably related to the economic, environmental, public health and energy impacts to the public and affected persons and are in furtherance of the policies set forth in Sections 15-8-102 and 104. If the permittee disagrees with this finding, pursuant to 6.12.0(2)(b) the permittee should submit all pertinent information to the Division during the public notice period.

B. Monitoring

1. Effluent Monitoring: Effluent monitoring will be required as shown below. Refer to the permit for locations of monitoring points. Monitoring frequencies have increased due to the compliance history of this permit.

Table VI-5 – Monitoring Requirements for Outfall 002

Parameter	Measurement Frequency	Sample Type
Flow, MGD	Daily	Instantaneous or continuous
TSS, mg/l	Weekly	Grab
Oil and Grease, mg/l	Weekly	Visual ^{a/}
pH, s.u.	Daily	Grab
TDS, mg/l	Quarterly	Grab
Whole Effluent Toxicity, Chronic	Quarterly	3 Composite/Test
Cadmium (TR), mg/l	Weekly	Grab
Copper (TR), mg/l	Weekly	Grab
Lead (TR), mg/l	Weekly	Grab
Silver (TR), mg/l	Weekly	Grab
Zinc (TR), mg/l	Weekly	Grab

TR means the total recoverable fraction, as defined in the Basic Standards and Methodologies for Surface Water.

^{a/} If a visible sheen is noted, a grab sample shall be collected and analyzed for oil and grease. The results are to be reported on the DMR under parameter 00556.

C. Reporting

1. Discharge Monitoring Report: Rico Development Corporation must submit a Discharge Monitoring Report (DMR) on a monthly basis to the Division. This report should contain the required summarization of the test results for parameters Part I.B.1 of the permit. See the permit, Part I.B.2. for details on such submission.
2. Special Reports: Special reports are required in the event of a spill, bypass, or other noncompliance. Please refer to Part I, Section D.4 of the permit for reporting requirements.

D. Additional Terms and Conditions

1. Signatory Requirements: Signatory requirements for reports and submittals are discussed in Part I, Section D.1 of the permit.
2. Compliance Schedules:
 - a) Materials Containment Plan: The permittee will be required to submit a Materials Containment Plan. The plan shall address the prevention and containment of spills of materials used, processed or stored at the facility which, if spilled, would have a reasonable probability of having a visible or otherwise detrimental impact on waters of the State.

This plan is to be submitted within 90 days of the effective date of the permit. See Part I.E of the permit.

- b) Cadmium, Copper, Silver and Zinc Limitations: The permittee shall achieve compliance with the final effluent limitations of Part I.A 1., effective February 1, 1995, in accordance with a schedule of compliance approved by the Water Quality Control Division. The permittee shall submit to the Division by June 1, 1994, an implementation plan to achieve compliance with the final limitations for cadmium, copper, silver and zinc. Where appropriate, the plan shall include operational changes, modification of any existing treatment, pretreatment or construction of a new treatment system. A schedule of dates to accomplish various tasks related to the plan should also be included. Upon approval of the implementation plan by the Division, all terms and conditions of said implementation plan, including but not limited to the compliance schedule, shall automatically become conditions of this permit. During the interim, effluent limitations equal to those in the previous permit shall apply. Where previous limitations were expressed as mass limitations, they have been converted back to concentration limitations in conformance with current Division policy (see section VI.A.2.).

E. Waste Minimization/Pollution Prevention

Waste minimization and pollution prevention are two terms that are becoming increasingly more common in industry today. Waste minimization includes reducing the amount of waste at the source through changes in industrial processes, and reuse and recycling of wastes for the original or some other purpose such as materials recovery or energy production.

Pollution prevention goes hand-in-hand with waste minimization. If the waste is eliminated at the front of the line, it will not have to be treated at the end of the line. The direct benefits to the industry are often significant - both in terms of increased profit and in public relations.

This program can affect all areas of process and waste control with which your industry deals. Elimination or reduction of a wastewater pollutant can also result in a reduction of an air pollutant or a reduction in the amount of hazardous materials that you have to handle and/or dispose of.

This discharge permit does not specifically dictate waste minimization conditions at this time. We strongly encourage the permittee to develop a waste minimization plan. Several industries have already developed plans and found that implementation resulted in substantial savings. Both the Colorado Department of Health and EPA have information and resources available to help you explore this topic.

F. Specific Compliance Requirements

1. Submissions to the Division: The following are specific compliance items which require permittee action. Please check the referenced parts of the permit for details on what is required.

Code	Event	Permit Citation	Due Date
53599	Submit Metals Implementation Plan	I.A.3.	June 1, 1994
05699	Compliance With Final Limitations	I.A.3.	February 1, 1995
90508	Materials Containment Plan	I.E.	90 days after effective date

Jon C. Kubie
October 21, 1993

VII. PUBLIC NOTICE COMMENTS

EPA submitted comments. They found the draft permit acceptable as an individual control strategy under Section 304(l) of the Clean Water Act. As such, they will be inactivating the permit issued by EPA upon this renewal permit becoming effective. EPA also mentioned minor typographical changes, including the erroneous inclusion of the word "not", in section VI.A.3.f)2) (last paragraph) of the rationale (page 8). This word has been deleted in the final version of the rationale.

Jon C. Kubic
December 22, 1993

VIII. REFERENCES

- A. Colorado Dept. of Health, Water Quality Control Commission. Basic Standards and Methodologies for Surface Water (3.1.0). Denver: CDH, as revised 10/17/91.
- B. Colorado Dept. of Health, Water Quality Control Commission. Regulations for Effluent Limitations (10.1.0). Denver: CDH, as revised 12/14/89.
- C. Colorado Dept. of Health, Water Quality Control Commission. Regulations for the State Discharge Permit System (6.1.0). Denver: CDH, as revised 6/11/92.
- D. U.S. Government, Office of the Federal Register, National Archives and Records Administration. Code of Federal Regulations (Part 440). Washington: 1990.